

Application No. 10/798,389
Amendment dated January 31, 2006

Docket No.: 4799-0112P

Please amend the claims as follows:

1. (Currently Amended) An apparatus ~~A printed circuit board (PCB) for a modular connector~~ comprising:

a modular connector with a printed circuit board (PCB) including:

circuit elements;

a plurality of contacts mounted on said PCB adapted for contacting conductors of a mating connector, wherein at least some of said contacts are electrically connected to said circuit elements, and wherein original crosstalk occurs between at least some conductors of said mating connector;

a first section of said PCB having a first dielectric constant (DK);

a second section of said PCB having a second DK lower than the first DK, and provided above or below said first section; and

at least one crosstalk compensation element utilizing said first section to provide compensating crosstalk to offset the original crosstalk, wherein said circuit elements are provided in said second section.

2. (Currently Amended) The apparatus ~~PCB~~ of claim 1, wherein the first section includes:

a first laminate including a substrate having the first DK and a metal sheet attached to at least one surface of said substrate;

a first prepreg above the first laminate; and

a second prepreg below the first laminate.

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3. (Currently Amended) The apparatus PCB of claim 2, wherein the first and second prepregs have the first DK.
4. (Currently Amended) The apparatus PCB of claim 3, wherein the at least one crosstalk compensation element is provided at a metal sheet of the first laminate.
5. (Currently Amended) The apparatus PCB of claim 3, wherein the second section includes:
 - a third prepreg above the first prepreg;
 - a first metal layer above the third prepreg;
 - a fourth prepreg below the second prepreg; and
 - a second metal layer below the fourth prepreg.
6. (Currently Amended) The apparatus PCB of claim 5, wherein the third and fourth prepregs have the second DK.
7. (Currently Amended) The apparatus PCB of claim 6, wherein the at least one circuit element is provided at the first and/or second metal layer, and at least a portion of the at least one crosstalk compensation element is provided at a metal sheet and/or the substrate of the first laminate.

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8. (Currently Amended) The apparatus PCB of claim 3, wherein the second section includes:

a second laminate above the first prepreg; and

a third laminate below the second prepreg,

wherein the second and third laminates have the second DK.

9. (Currently Amended) The apparatus PCB of claim 8, wherein each of the second and third laminates includes a dielectric material substrate and a single metal sheet on the substrate.

10. (Currently Amended) The apparatus PCB of claim 9, wherein the at least one circuit element is provided at the single metal sheet of the second and/or third laminate, and at least a portion of the at least one crosstalk compensation element is provided at a metal sheet and/or the substrate of the first laminate.

11. (Currently Amended) The apparatus PCB of claim 1, wherein the second section includes:

a first laminate including a substrate having the second DK and a metal sheet attached to at least one surface of said substrate;

a first prepreg above the first laminate; and

a second prepreg below the first laminate.

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12. (Currently Amended) The apparatus ~~PCB~~ of claim 11, wherein the first and second prepregs have the second DK.

13. (Currently Amended) The apparatus ~~PCB~~ of claim 12, wherein the first section includes:
a third prepreg above the first prepreg;
a first metal layer above the third prepreg;
a fourth prepreg below the second prepreg; and
a second metal layer below the fourth prepreg.

14. (Currently Amended) The apparatus ~~PCB~~ of claim 13, wherein the third and fourth prepregs have the first DK.

15. (Currently Amended) The apparatus ~~PCB~~ of claim 14, wherein at least a portion of the at least one crosstalk compensation element is provided at the first and/or second metal layer, and the at least one circuit element is provided at a metal sheet of the first laminate.

16-29. (Canceled)

30. (Currently Amended) The apparatus ~~PCB~~ of claim 1, wherein the first DK is in the range of 4.0 – 5.0, and the second DK is in the range of 2.5 – 3.5.

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31. (Currently Amended) The apparatus ~~PCB~~ of claim 1, wherein the at least one crosstalk compensation element includes a plurality of capacitors placed at different compensation stages of the PCB.

32. (Currently Amended) The apparatus ~~PCB~~ of claim 1, wherein the at least one crosstalk compensation element includes a first capacitor for providing a first phase of compensating crosstalk to offset the original crosstalk and a second capacitor for providing a second phase of compensating crosstalk to offset the original crosstalk.

33. (Currently Amended) The apparatus ~~PCB~~ of claim 1, wherein said modular connector is a modular jack.